

FORM PTO-1390 (Modified)
(REV 11-98)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

KSN0009

U.S. APPLICATION NO. (IF KNOWN SEE 37 CFR

09/762138

INTERNATIONAL APPLICATION NO.
PCT/DE99/02015INTERNATIONAL FILING DATE
1 July 1999PRIORITY DATE CLAIMED
3 August 1998

TITLE OF INVENTION

BUSHING CONTACT

APPLICANT(S) FOR DO/EO/US

Richard Flieger and Freddy D'Hulster

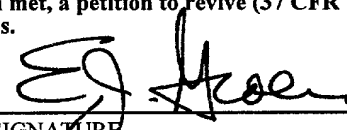
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ A copy of the International Search Report (PCT/ISA/210).
8. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
10. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 13 to 20 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☒ Certificate of Mailing by Express Mail
20. ☒ Other items or information:

Copy of Notification to the International Bureau regarding the Change of Applicant; Response Card;
Check No. 14698 in the amount of \$860.00

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 09/762138)		INTERNATIONAL APPLICATION NO. PCT/DE99/02015		ATTORNEY'S DOCKET NUMBER KSN0009	
21. The following fees are submitted:				CALCULATIONS PTO USE ONLY	
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :					
<input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1,000.00					
<input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$860.00					
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$710.00					
<input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00					
<input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00					
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$860.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492 (e)). <input type="checkbox"/> 20 <input type="checkbox"/> 30				\$0.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	20 - 20 =	0	x \$18.00	\$0.00	
Independent claims	2 - 3 =	0	x \$80.00	\$0.00	
Multiple Dependent Claims (check if applicable).			<input type="checkbox"/>	\$0.00	
TOTAL OF ABOVE CALCULATIONS =				\$860.00	
Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable).			<input type="checkbox"/>	\$0.00	
SUBTOTAL =				\$860.00	
Processing fee of \$130.00 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492 (f)).			<input type="checkbox"/> 20 <input type="checkbox"/> 30 +	\$0.00	
TOTAL NATIONAL FEE =				\$860.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).			<input type="checkbox"/>	\$0.00	
TOTAL FEES ENCLOSED =				\$860.00	
				Amount to be refunded	\$
				charged	\$
<input checked="" type="checkbox"/> A check in the amount of \$860.00 to cover the above fees is enclosed.					
<input type="checkbox"/> Please charge my Deposit Account No. in the amount of to cover the above fees. A duplicate copy of this sheet is enclosed.					
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 02-0387 A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:					
<div>Eric J. Groen Baker & Daniels 205 W. Jefferson Blvd. Suite 250 South Bend, IN 46601 Tel. (219) 234-4149 Fax (219) 239-1900</div> <div> SIGNATURE Eric J. Groen NAME 32,230 REGISTRATION NUMBER February 1, 2001 DATE</div>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Richard Flieger and Freddy D'Hulster

Filed: PCT/DE99/02015 July 1, 1999

For: BUSHING CONTACT

Commissioner for Patents and Trademarks
Washington DC 20231

Dear Sir:

PRELIMINARY AMENDMENT

In the above-mentioned PCT application, please accept the enclosed application under the national stage pursuant to 35 USC § 371 and amend the application as follows:

In the Specification:

On Page 6, lines 5 and 10, delete "looking" and replace with --locking--.

On Page 7, line 33, delete "a crank" and replace with -- an offset --.

In the Claims:

1. A socket contact consisting of a backup spring and a base spring, said backup spring enclosing the base spring in box-like manner with a first wall, a second wall, a third wall, and divided fourth wall, and with at least two connecting lugs being formed on one wall section for connecting the wall sections of the divided fourth wall to each other in positive manner, said connecting lugs being arranged in the front and rear portions of the wall section as seen in the direction of insertion of the socket contact, the other wall section is formed with a recess for each connecting lug and said connecting lugs are passed through the

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recesses and bent over, and the two wall sections overlap over the full length of the backup spring.

2. The socket contact of claim 1, wherein a lower wall section and an upper wall section are formed by said overlapping of the wall sections of the backup spring, and the connecting lugs are formed on the lower wall section and the recesses are formed on the upper wall section.

3. The socket contact of claim 2, wherein at least one recess is formed as an elongate hole in the upper wall section.

4. The socket contact of claim 2, wherein at least one recess is formed as U-shaped recess on the terminal-side or contact-side edge of the upper wall section.

5. The socket contact of claim 1, wherein the connecting lugs, after being bent over, are deformed such that they are supported on the walls of the recesses.

6. The socket contact of claim 5, wherein the deformation of the connecting lugs is effected by press-fitting or introducing one or more notches on the upper side of the connecting lugs.

7. The socket contact of claim 1, wherein a locking hook extending in the longitudinal direction of the backup spring is cut out and bent outwardly from the first wall.

8. The socket contact of claim 2, wherein the upper wall section, in front of said overlapping portion, has a crank with the material thickness of the lower wall section.

9. The socket contact of claim 2, wherein the lower wall section is formed with a polarizing member.

10. The socket contact of claim 1, wherein, for mounting the backup spring on the base spring, there are formed folding lugs on the opposing second and third walls of the backup spring, with said folding lugs being adapted to be bent inwardly and engaging in corresponding openings on the base spring.

11. A socket contact consisting of a backup spring and a base spring, said backup spring enclosing the base spring in box-like manner with a first wall, a second wall, a third wall, and a divided fourth wall comprised of overlapping wall portions, and with at least two connecting lugs being formed on one of said overlapping wall portions and complementary recesses being formed in said other overlapping wall portion, said connecting lugs being passed through the recesses and bent over for connecting the wall sections of the divided fourth wall to each other in positive manner, said connecting lugs being arranged in the front and rear portions of the wall section as seen in the direction of insertion of the socket contact.

12. The socket contact of claim 11, wherein a lower wall section and an upper wall section are formed by said overlapping of the wall sections of the backup spring, and the connecting lugs are formed on the lower wall section and the recesses are formed on the upper wall section.

13. The socket contact of claim 12, wherein at least one recess is formed as an elongate hole in the upper wall section.

14. The socket contact of claim 12, wherein at least one recess is formed as U-shaped recess on the terminal-side or contact-side edge of the upper wall section.

15. The socket contact of claim 11, wherein the connecting lugs, after being bent over, are deformed such that they are supported on the walls having the recesses.

16. The socket contact of claim 15, wherein the deformation of the connecting lugs is effected by press-fitting or introducing one or more notches on the upper side of the connecting lugs.

17. The socket contact of claim 11, wherein a locking hook extending in the longitudinal direction of the backup spring is cut out and bent outwardly from the first wall.

18. The socket contact of claim 12, wherein the upper wall section, in front of said overlapping portion, has a crank with the material thickness of the lower wall section.

19. The socket contact of claim 12, wherein the lower wall section is formed with a polarizing member.

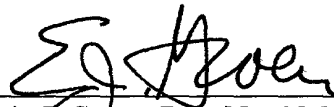
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20. The socket contact of claim 11, wherein, for mounting the backup spring on the base spring, there are formed folding lugs on the opposing second and third walls of the backup spring, with said folding lugs being adapted to be bent inwardly and engaging in corresponding openings on the base spring.

REMARKS

Applicants respectfully request that the above preliminary amendment be entered, and that the fees due herewith are calculated using the new claims, not the claims of the PCT application.

Respectfully submitted,



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4/PRTs

09/762138
JC02 Rec'd PCT/PTO 01 FEB 2001

K 55 195/6

Specification

Socket Contact

The invention relates to a socket contact consisting of a back-up spring and a base spring, the back-up spring enclosing the base spring in box-like manner with a first, second, third and a divided fourth wall, and with at least two connecting lugs being formed on one wall section for connecting the wall sections of the fourth divided wall to each other in positive manner, said connecting lugs, in the direction of insertion of said socket contact, being formed in the front and rear portions of the wall sections.

Such a back-up spring is known from DE 195 36 500 C2. The back-up spring is made of a stamped and bent part, with the two top wall sections being separated from each other by a longitudinal slot for manufacturing reasons. One of the top wall sections, in the lower partial region of the longitudinal slot, is formed with a connecting lug that is bent upwardly from the top wall section by a cranked portion and extends beyond the longitudinal slot in the direction towards the opposite top wall section and overlaps the other top wall section. The connection of the connecting lug to the other top wall section takes place either by plastic forming, i.e. plastic cold forming and pressing the connecting portion into each other using a punch, or by welding or a completely positive connection. The publication does not suggest a concrete positive connection of the top wall sections.

DE 43 12 641 A1 discloses an electric contact bushing comprising a back-up spring in which the back-up spring also has a longitudinal slot in its bottom wall for manufacturing reasons. The bottom wall sections have

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abutment edges which extend in parallel along the longitudinal slot and which are not aligned in the front region of the contact bushing but rather establish a hook-type design.

This kind of positive connection, however, has the disadvantage that the hook-type connection may be released in case of strong torsion or mechanical load of the back-up spring.

Furthermore, DE-UM 92 01 047 discloses a double flat spring contact comprising a back-up spring integrally incorporated in the contact and formed in one piece with the same. The base part of this contact is divided, with the thus formed side walls being connected to each other with stability in terms of shape via two connecting lugs. The connecting lugs have a recess and a dovetail-like projection, respectively, that is wedged into said recess.

This type of connection also entails the disadvantage that it may become released in case of torsion or strong mechanical loads acting on the back-up spring.

It is thus the object of the invention to indicate for a socket contact of the type indicated at the outset a back-up spring having an as stable as possible closed box-shape that can be manufactured without additional working expenditure.

This object is met according to the invention in that the other wall section is formed with a recess for each connecting lug and that the connecting lugs are passed through the recesses and bent over, and the two wall sections overlap over the full length of the back-up spring.

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This type of connection can easily be produced on a stamping and bending machine. The connecting lugs to this end are bent over first by 90° so that they protrude outwardly. Thereafter, the other wall section with the recesses is bent over the protruding connecting lugs such that the connecting lugs extend through the recesses. By bending over the upper portion of the connecting lugs, the wall halves of the divided fourth wall are connected to each other with stability in shape.

Due to the fact that the wall halves overlap over the entire length of the back-up spring, a closed box-shape is obtained and the stability of the connection is increased considerably. By said overlapping, the upper wall section is clamped between the bent portion of the connecting lugs and the lower wall section. The clamping effect adds a frictional component to the positive connection.

The wall halves thus are firmly connected to each other both in the longitudinal and in the transverse direction of the back-up spring. Also in case of high mechanical loads, such as e.g. torsion or stepping-on loads of the back-up spring, there is thus no risk that the connection of the wall halves will become disengaged.

The recesses preferably are formed in the upper wall section in the form of elongate holes. At least one recess, however, may also be formed as U-shaped recess on the terminal-side or contact-side edge of the upper wall section.

The provision of the recesses in the form of elongate holes has the advantage that the connecting lugs, after bending, can be formed into a shape such that they are supported on the walls of the recesses.

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The deformation of the connecting lugs suitably takes place by pressing together or introducing one or more notches on the upper side of the connecting lugs.

To enclose the base spring in as stable manner as possible, it is necessary to keep the contact area between back-up spring and base spring as large as possible. To this end, the upper wall section, in front of the overlapping portion, is advantageously formed with a crank with the material thickness of the lower wall section.

Further advantageous developments are indicated in the dependent claims.

The invention will be elucidated in more detail hereinafter by way of an embodiment depicted in the drawings, in which

Fig. 1 shows a perspective view of a socket contact looking onto the divided fourth wall;

Fig. 2 shows a corresponding view of the socket contact looking onto the first wall;

Fig. 3 shows a perspective view of a further modification of the back-up spring looking onto the divided fourth wall;

Fig. 4 shows a cross-sectional view of a contact cavity of a contact carrier receiving a socket contact; and

Fig. 5 shows a partial sectional view of the contact region of the socket contact.

Figs. 1 and 2 illustrate a socket contact 1 consisting of a base spring 2 and a back-up spring 3. The entire

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socket contact 1 is inserted into a contact cavity 4 of a contact carrier 5 (cf. Fig. 4), e.g. a socket housing of an electrical connector assembly with single-row or multi-row contact cavities. The base spring 2 is formed with a terminal section 6, e.g. in the form of a crimp-type terminal, for an electric conductor and with a contact section 7 having a spring leg base 8 of e.g. U-shaped or rectangular design in cross-section, from which extend the spring legs 9 and 10 (cf. Fig. 5) for establishing contact with a plug-type contact, e.g. a contact blade. The spring legs 9 and 10 of the base spring 2 originate e.g. from the top wall and the wall of a spring leg base 8 of rectangular cross-section and may be designed as ordinary forked spring arms or double flat spring contacts, but may also have a plurality of contact lamellas on each spring leg by providing longitudinal slots. In case of the socket contact 1 illustrated, each spring leg 9, 10 has four contact lamellas.

The back-up spring 3 also is of rectangular cross-section so that it encloses the entire contact section 7 of the base spring 2 with four walls 11 to 14 in box-shaped manner. The first wall 11 constitutes the top wall, the second and third walls 12, 13 constitute the side walls, and the fourth wall 14 represents the bottom wall. In the lower partial region of the first wall 11 facing the terminal section 6 of base spring 2, there is formed an outwardly bent locking hook 15 as primary locking feature for a socket contact 1 to be inserted into a contact cavity 4 of contact carrier 5. Locking hook 15, on its outer face side in the middle thereof, has an outwardly projecting bulge 16 and is provided with an impressed portion 17 on both sides of the bulge 16. Due to the impressed portions 17, there are formed relatively sharp edges on the face side of locking hook 15 which contribute in that the locking hook 15 provides for better fixation of the socket contact 1 in the contact cav-

ity 4. The outwardly directed bulge 16 in locking hook 15 also contributes in providing improved fixation of socket contact 1 in contact cavity 4.

For providing the effect that the locking hook 15 is pressed against the inner wall of contact cavity 4 as strongly as possible, there is provided a reinforcing bead 18 in the bending line between the locking hook 15 and the first wall 11. The reinforcing bead 18 aggravates bending back of the locking hook 17 towards the first wall 11.

For fixing the back-up spring 3 on the base spring 2, the second and third walls 12, 13 of back-up spring 3 are formed with folding lugs 19, 20 formed by separating cuts, which engage in corresponding openings 21, 22 in the side walls of the spring leg base 8.

The base spring 2 and the back-up spring 3 are stamped and bent sheet metal members and thus are divided into two in one wall for manufacturing reasons.

In case of back-up spring 3, the fourth wall 14 is divided into two and consists of the two wall sections 14a and 14b. For obtaining a stable closed box-shape, the wall sections 14a and 14b are connected to each other in the manner elucidated hereinafter.

The wall sections 14a and 14b overlap over the entire length of back-up spring 3. Due to such overlapping, there is formed a lower wall section 14a and an upper wall section 14b. The lower wall section 14a has two connecting lugs 23 formed thereon which are bent upwardly by 90° and are passed through corresponding recesses 24 in the upper wall section 14b. For providing a positive or form-fit connection of the wall sections 14a and 14b, the connecting lugs 23, after having been

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passed through the recesses 24, are bent over once more by 90° so that the upper wall section 14a is clamped between the bent over upper portion of the connecting lugs 23 and the lower wall section 14a.

In bending over the upper portion of the connecting lugs 23, these are press-fit such that the connecting lugs 23 are urged against the side walls of opening 24. By doing so, any possibility of movement of the wall sections 14a and 14b relative to each other is excluded after press-fitting. In addition to or as an alternative to press-fitting, the top sides of the bent over connecting lugs 23 may be provided with notches 25 so that the connecting lugs become broader in the longitudinal direction of the back-up spring 3 and are also pressed against the side walls of the recesses 24. The notches 25 are arranged perpendicularly to the longitudinal direction of the back-up spring 3.

The two connecting lugs 23, through which wall sections 14a and 14b are connected to each other, are arranged substantially in the front and rear portions of the lower wall section 14a as seen in the direction of insertion of socket contact 1.

The connecting lug 23 located closer to the terminal section 6 of the base spring 2 is of considerably broader configuration and is provided on the top side thereof with two or more notches 25.

In order for the back-up spring 3 to enclose the rectangular base spring 2 almost completely, the upper wall section 14b is bent by a crank 26 in front of the portion overlapping with the lower wall section 14a.

On the face side of the lower wall section 14a facing in insertion direction, there is arranged an additional lug 27 that is also bent upwardly by 90°, and the somewhat

broader upper portion thereof is folded back downwardly by 180°. The upper folded portion of lug 27 constitutes a polarizing member 28 for the socket contact 1, so as to prevent erroneous insertion of the socket contact 1 into the contact cavity of a contact carrier. Lug 27 is laterally offset from the longitudinal axis of the back-up spring 3. The upper folded portion is broadened in the direction towards the longitudinal axis of the back-up spring 3, but still is arranged laterally offset from the longitudinal axis of the back-up spring 3. However, it may also be arranged centrally with respect to the longitudinal axis of the back-up spring 3 so as to be mateable with the contact cavity 4 as shown in Fig. 4. As shown by the sectional view in Fig. 4, the contact cavity 4 of contact carrier 5 is formed with a corresponding polarizing groove 29 for polarizing member 28.

In order to not hinder insertion of socket contact 1 into the contact cavity 4 of contact carrier 5, the dimensions of polarizing member 28 transversely of the direction of insertion are smaller than those of the polarizing groove 29.

On the divided fourth wall 14 and on the first wall 11 of the back-up spring 3, there is formed, for each spring leg 9, 10 of the back-up spring 3, an inwardly bent back-up spring tongue 30 which abut on the spring legs 9, 10 approximately at the height of the contact region 31 (cf. Fig. 5).

Fig. 3 shows an additional modification of the back-up spring 3. The connection of wall sections 14a and 14b is effected both on the terminal side and on the contact side via two connecting lugs 23 of equal width, which are provided with only one impressed portion 25 each on their top side. The terminal-side recess 24 in upper wall section 14a is of U-shaped configuration. The locking hook 15 is formed on the terminal-side edge of the

first wall 11 and is produced by two cuts 32, 33 starting from the face side of the first wall 11 that is directed towards terminal section 6.

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Patent Claims

1. A socket contact (1) consisting of a back-up spring (3) and a base spring (2), said back-up spring (3) enclosing the base spring (2) in box-like manner with a first wall (11), a second wall (12), a third wall (13) and divided fourth wall (14), and with at least two connecting lugs (23) being formed on one wall section (14a) for connecting the wall sections (14a, 14b) of the divided fourth wall (14) to each other in positive manner, said connecting lugs being arranged in the front and rear portions of the wall section (14a) as seen in the direction of insertion of the socket contact (1),

c h a r a c t e r i z e d i n
that the other wall section (14b) is formed with a recess (24) for each connecting lug (23) and that said connecting lugs (23) are passed through the recesses (24) and bent over, and the two wall sections (14a, 14b) overlap over the full length of the back-up spring (3).

2. The socket contact of claim 1, characterized in that a lower wall section (14a) and an upper wall section (14b) are formed by said overlapping of the wall sections (14a, 14b) of the back-up spring (3), and the connecting lugs (23) are formed on the lower wall section (14a) and the recesses (24) are formed on the upper wall section (14b).

3. The socket contact of claim 2, characterized in that at least one recess (24) is formed as an elongate hole in the upper wall section (14b).

4. The socket contact of claim 2, characterized in that at least one recess (24) is formed as U-shaped recess on the terminal-side or contact-side edge of the upper wall section (14b).

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5. The socket contact of any of claims 1 to 4, characterized in that the connecting lugs (23), after being bent over, are deformed such that they are supported on the walls of the recesses (24).

6. The socket contact of claim 5, characterized in that the deformation of the connecting lugs (23) is effected by press-fitting or introducing one or more notches (25) on the upper side of the connecting lugs (23).

7. The socket contact of any of claims 1 to 6, characterized in that a looking hook (15) extending in the longitudinal direction of the back-up spring (3) is cut out and bent outwardly from the first wall (11).

8. The socket contact of any of claims 2 to 7, characterized in that the upper wall section (14b), in front of said overlapping portion, has a crank (26) with the material thickness of the lower wall section (14a).

9. The socket contact of any of claims 2 to 8, characterized in that the lower wall section (14a) is formed with a polarizing member (28).

10. The socket contact of any of claims 1 to 9, characterized in that, for mounting the back-up spring on the base spring (2), there are formed folding lugs (19, 20) on the opposing second and third walls (12, 13) of the back-up spring (3), with said folding lugs being adapted to be bent inwardly and engaging in corresponding openings (21, 22) on the base spring (2).

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Abstract

Socket Contact

The invention relates to a socket contact (1) consisting of a back-up spring (3) and a base spring (2), the back-up spring (3) enclosing the base spring (2) in box-like manner with a first wall (11), a second wall (12), a third wall (13) and a divided fourth wall (14). The wall sections (14a, 14b) of the fourth divided wall (14) are connected to each other in positive fitting manner. On one wall section (14a), there are formed at least two connecting lugs (23) arranged in the front and rear portions of the wall section (14a) as seen in the direction of insertion of the socket contact (1). The other wall section (14b) is formed with a recess (24) for each connecting lug (23), and the connecting lugs (23) are passed through said recesses (24) and bent over. For increased stability, the two wall sections (14a, 14b) overlap over the full length of the back-up spring (3).

Figure 1

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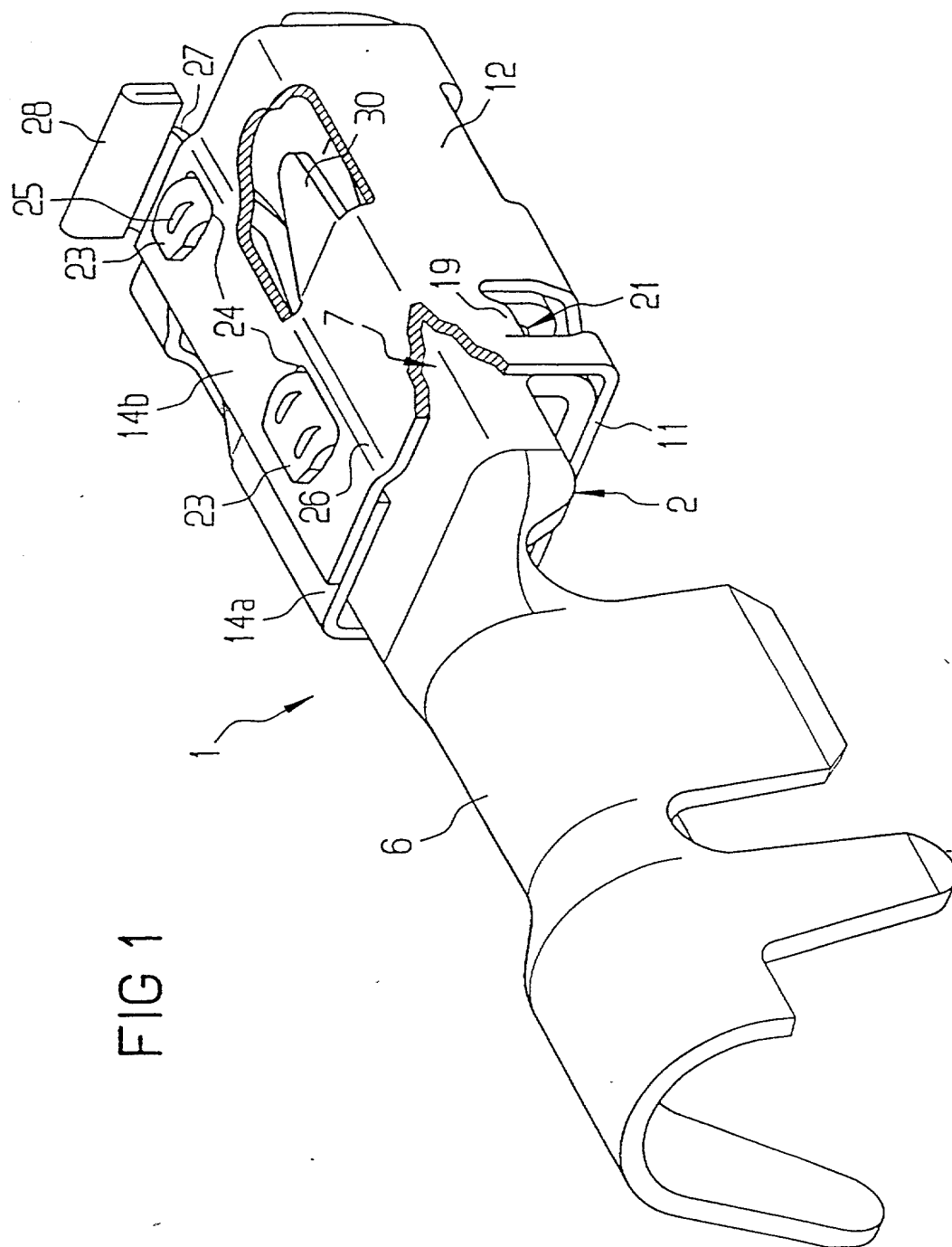
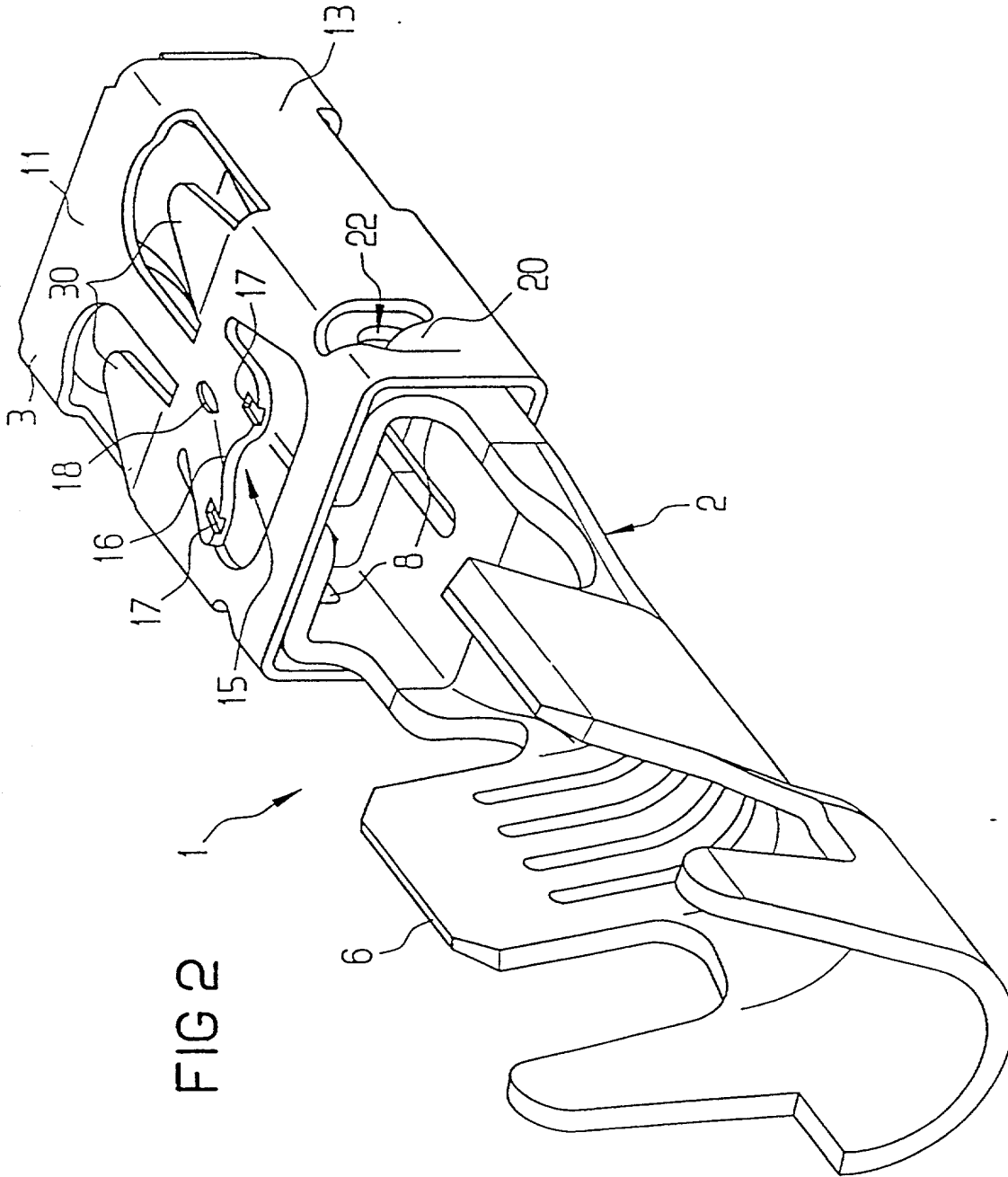
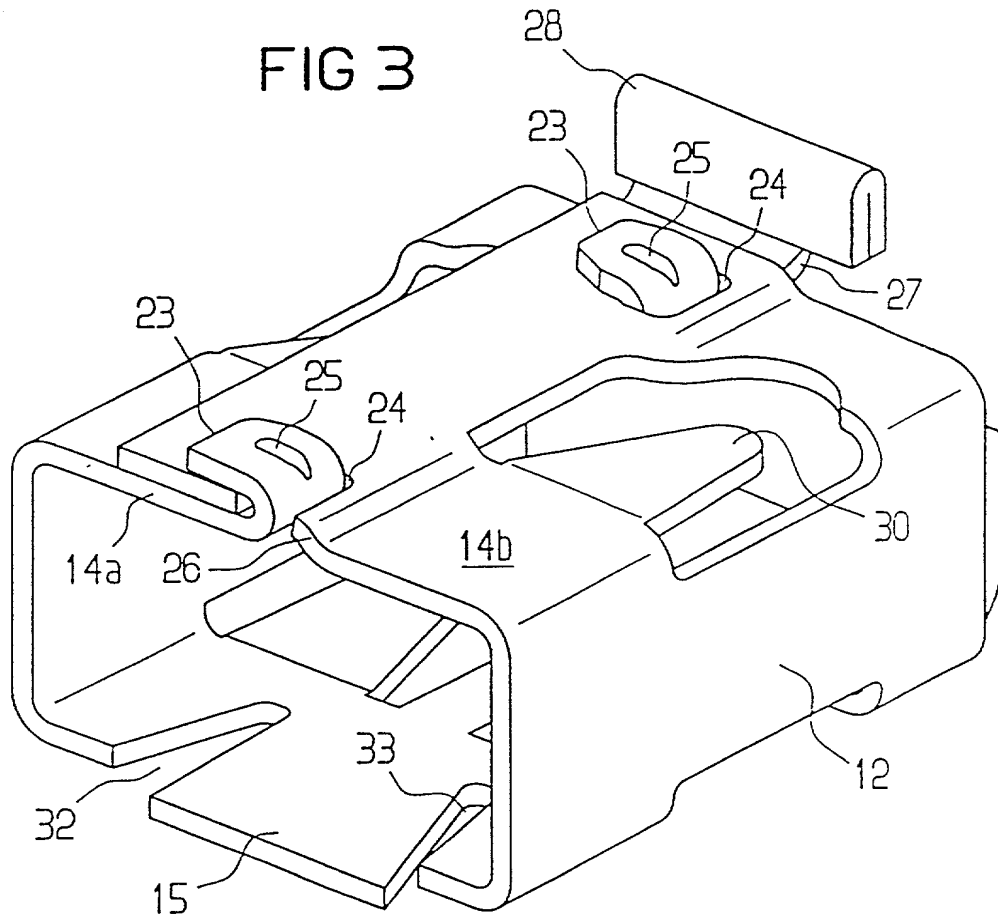


FIG 2



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FIG 3



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FIG 4

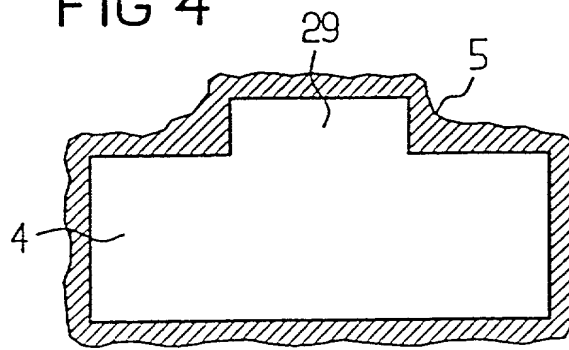
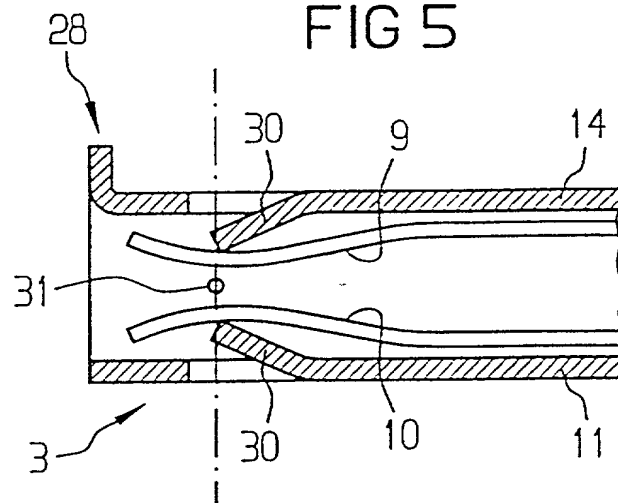


FIG 5



Docket No.
KSN0009

09/762,138

Declaration and Power of Attorney For Patent Application

English Language Declaration

* As a below named inventor, I hereby declare that:

- My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

BUSHING CONTACT

the specification of which

(check one)

☐ is attached hereto.

☒ was filed on February 1, 2001 as United States Application No. or PCT International Application Number 09/762,138 and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

<u>198 35 020.1</u>	<u>Germany</u>	<u>03 August 1998</u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u> </u>	<u> </u>	<u> </u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u> </u>	<u> </u>	<u> </u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)

(Filing Date)

(Application Serial No.)

(Filing Date)

(Application Serial No.)

(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

PCT/DE99/02015

1 July 1999

Pending

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

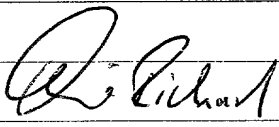
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

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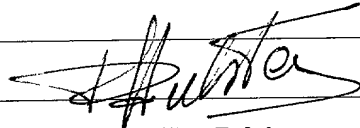
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